

37th Annual Meeting, APS Division of Plasma Physics

6-10 November 1995, Louisville, KY

Abstract Submittal Form

Deadline: Friday, 7 July 1995

Subject Classification Category _____
(Refer to the DPP Subject Category list on page M12.)

[] Theory [] Experiment

Simulations of a supernova-relevant hydrodynamic instability experiment on the Nova laser,* J. Kane,¹ D. Arnett,¹ B.A. Remington,² D. Dearborn,² A. Rubenchik,³ J. Castor,² S. Woosley,⁴ M. Wood-Vasey,⁵ E.P. Liang,⁶ and R. London,² ¹University of Arizona, ²Lawrence Livermore National Laboratory, ³University of California-Davis, ⁴University of California-Santa Cruz, ⁵Harvey Mudd College, and ⁶Rice University. Supernovae 1987A focused attention on the critical role of hydrodynamic instabilities in the evolution of supernovae. On quite a separate front, the detrimental effect of hydrodynamic instabilities in inertial confinement fusion (ICF) has long been known. Tools from both areas are being tested on a common project. At Lawrence Livermore National Laboratory, the Nova Laser is being used in scaled laboratory experiments of hydrodynamic mixing under supernova-relevant conditions. Numerical simulations of the experiments are being done, using hydrodynamics codes at the Laboratory, and astrophysical codes successfully used to model the hydrodynamics of supernovae and their interaction with the environment. The results of the simulations will be presented and compared with experiment. Possible implications for interpreting supernova observations and for supernova modeling will be discussed.

*Work performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under contract number W-7405-ENG-48.

[] Prefer Poster Session
[X] Prefer Oral Session
[] Place in the following grouping:
(Specify the order)

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Submitted by:

(Signature of APS Member)

Bruce Remington

(Member Name Typewritten)

Lawrence Livermore National Laboratory
P. O. Box 5508, L-473
Livermore, California 94550
510-423-2712, FAX 510-422-8395
remington2@llnl.gov

A faxed copy is not acceptable. This form, or a computer generated form, plus **TWO COPIES**, must be received by **Friday, 7 July, 1995** at the following address:

Meetings Department • DPP 37th Annual Meeting
The American Physical Society
One Physics Ellipse
College Park, MD 20740-3844
phone: (301) 209-3286